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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,909	08/06/2003	Albert Pedoeem	15772.0009	7329

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EXAMINER

MCKINNON, TERRELL L

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,909

Applicant(s)

PEDOEEM ET AL.

Examiner

Terrell L. Mckinnon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

Receipt is acknowledged of applicant's amendment filed June 27, 2005. Claims 1-16 are pending and an action on the merits is as follows.

Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (U.S. 5,742,478) in view of Hileman et al. (U.S. 5,287,244).

Wu discloses a radiator structure and method comprising:

- a housing, a printed circuit board including at least one component;
- a thermal plate coupled between the at least one surface of the housing and the printed circuit board, the thermal plate being in thermally conductive contact with the at least one component and the housing.

Wu's invention discloses all of the claimed limitations from above except for air flow perforations over more than half of at least one surface; the housing comprises

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mating halves, each mating half including a dimpled mating surface and a rigid mating surface, each dimpled mating surface engaging the opposing rigid mating surface wherein the dimpled mating surface comprises at least one chamfer and at least one dimpled member for engaging the rigid surface.

3. However, Hileman teaches the use of airflow perforations over more than half of at least one surface; and a housing comprises mating halves.

Given the teachings of Hileman, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the radiator structure and method of Wu with air flow perforations over more than half of at least one surface; the housing comprises mating halves, each mating half including a dimpled mating surface and a rigid mating surface, each dimpled mating surface engaging the opposing rigid mating surface wherein the dimpled mating surface comprises at least one chamfer and at least one dimpled member for engaging the rigid surface.

Doing so would provide enhanced heat dissipation from the heat generating housing.

4. Claims 6, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (U.S. 5,742,478) in view of Hileman et al. (U.S. 5,287,244) as applied to claims above, and further in view of Kruger et al. (U.S. 6,788,540).

Wu's invention, as modified by Hileman, discloses all of the claimed limitations from above except for the printed circuit board including at least one optical component and further comprising a heat sink in thermal contact with the optical component and the housing, the heat sink conducting heat from the optical component to the housing; the

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optical component includes a metal ferrule, further comprising an optical transceiver having a grounded metal ferrule electrically coupled to the optical component; and a metal shroud coupled to the housing for surrounding the optical connector; and the metal shroud comprises dimples for electrically coupling the connector to the housing.

5. However, Kruger teaches the use of printed circuit board includes at least one optical component and further comprising a heat sink in thermal contact with the optical component and the housing, the heat sink conducting heat from the optical component to the housing; the optical component includes a metal ferrule, further comprising an optical transceiver having a grounded metal ferrule electrically coupled to the optical component; and a metal shroud coupled to the housing for surrounding the optical connector; and the metal shroud comprises dimples for electrically coupling the connector to the housing.

Given the teachings of Kruger, it would have been obvious to one of ordinary skill in the art at the time of the invention to furthermore modify the radiating structure of Wu with the printed circuit board includes at least one optical component and further comprising a heat sink in thermal contact with the optical component and the housing, the heat sink conducting heat from the optical component to the housing; the optical component includes a metal ferrule, further comprising an optical transceiver having a grounded metal ferrule electrically coupled to the optical component; and a metal shroud coupled to the housing for surrounding the optical connector; and the metal shroud comprises dimples for electrically coupling the connector to the housing.

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Doing so would provide a means of controlling the temperature of electrical heat generating devices.

6. Claims 2-4, 13, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (U.S. 5,742,478) in view of Hileman et al. (U.S. 5,287,244) as applied to claims above, and further in view of Currie et al. (U.S. 4,504,156).

Wu's invention, as modified by Hileman, discloses all of the claimed limitations from above except for at least one thermally conductive and complaint pad coupled between the thermal plate and the at least one component; the thermal plate includes at least one raised portion, each raised portion being raised to facilitate thermal contact between each of the at least one raised portion and a corresponding one of the at least one component; the thermal plate is aluminum and is manufactured by at least one of stamping and die casting.

7. However, Currie teaches at least one thermally conductive and complaint pad (32) coupled between the thermal plate (20) and the at least one component; the thermal plate is aluminum and is manufactured by at least one of stamping and die casting.

Given the teachings of Currie, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the radiating structure of Wu with least one thermally conductive and complaint pad coupled between the thermal plate and the at least one component; the thermal plate includes at least one raised portion, each raised portion being raised to facilitate thermal contact between each of the at least one

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raised portion and a corresponding one of the at least one component; the thermal plate is aluminum and is manufactured by at least one of stamping and die casting.

Doing so would provide enhance heat dissipation and provide a reliable secure connection between the two matting objects.

Response to Arguments

Applicant's arguments filed June 27, 2005 have been fully considered but they are moot in view of the new rejection as stated above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrell L. Mckinnon whose telephone number is 571-

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272-4797. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Terrell L McKinnon
Primary Examiner
Art Unit 3743
September 19, 2005